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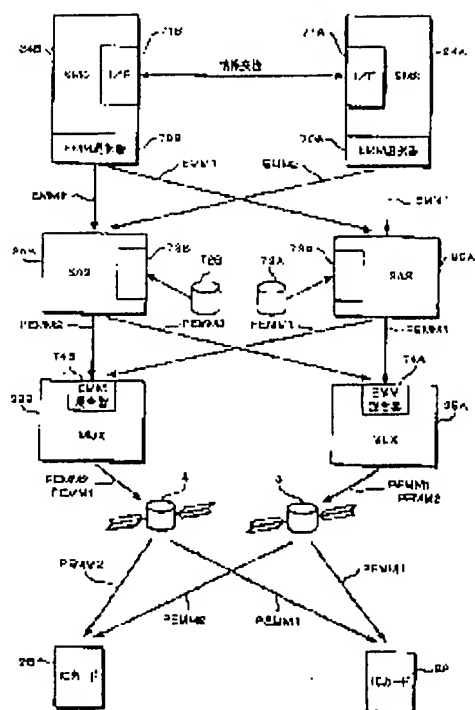
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(54) MANAGEMENT SYSTEM AND MANAGEMENT METHOD FOR RECEPTION CONTRACT INFORMATION AND RECEIVER

(57)Abstract:

PROBLEM TO BE SOLVED: To allow the receiver to use a common IC card to receive broadcast programs of a plurality of satellite operation companies.

SOLUTION: An EMM selector 70A of a 1st broadcast site discriminates it that reception contract information from a customer management system 24A is to be managed by the 1st broadcast site or a 2nd broadcast site. When the reception contract is to be managed by the 1st broadcast site, the information is processed by a 1st broadcast customer management system 24A, and when the information is to be managed by the 2nd broadcast side, the selector 70A sends the information to the 2nd broadcast site. An EMM selector 70B of the 2nd broadcast site discriminates it that reception contract information from a customer management system 24B is to be managed by the 1st broadcast site or the 2nd broadcast site. When the reception contract is to be managed by the 2nd broadcast site, the information is processed by a 2nd broadcast customer management system 25B, and when the information is to be managed by the 1st broadcast side, the selector 70 sends the information to the 1st broadcast site. The reception contract information is identified based on high-order bits of a card ID.



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CLAIMS

[Claim(s)]

[Claim 1] In the management equipment of the reception contract information on multi-channel broadcast that the 1st broadcast which performs multi-channel broadcast using the 1st satellite, and the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite were received by the common decoder The 1st customer management tool with which the site of broadcast of the above 1st sends out reception contract information, The information by which the reception contract information from the customer management tool of the above 1st should be managed to the site of the 1st broadcast, or the information which should be managed to the site of the 2nd broadcast is distinguished. If it is the information which should be managed to the site of broadcast of the above 1st, the above-mentioned reception contract information is processed within the customer management tool of the above 1st. The 1st selection means which sends the above-mentioned reception contract information to the site of broadcast of the above 2nd if it is the information which should be managed to the site of broadcast of the above 2nd, The reception contract information judged to be the information which should be managed to the site of broadcast of the above 1st with the selection means of the site of broadcast of the above 1st, Or the 1st packet means forming which forms a reception contract information packet from the reception contract information sent as information which should be managed from the site of broadcast of the above 2nd to the site of broadcast of the above 1st, The reception contract information packet of the 1st broadcast from the packet means forming of the above 1st, The 1st [which is sent from the site of broadcast of the above 2nd] mixed means which mixes the reception contract information packet of the 2nd broadcast, It has a means to include the reception contract information packet of broadcast of the mixed above 1st, and the reception contract information packet of broadcast of the above 2nd in a packet stream, and to transmit. The 2nd customer management tool with which the site of broadcast of the above 2nd sends out reception contract information, and the customer management tool of the above 2nd Information is exchanged between the customer management tools of the above 1st of the site of broadcast of the above 1st. The information by which the reception contract information from the customer management tool of the above 2nd should be managed to the site of broadcast of the above 2nd, or the information which should be managed to the site of the 1st broadcast is distinguished. If it is the information which should be managed to the site of broadcast of the above 2nd, the above-mentioned reception contract information is processed within the customer management tool of the above 2nd. The 2nd selection means which sends the above-mentioned reception contract information to the site of broadcast of the above 1st if it is the information which should be managed to the site of broadcast of the above 1st, The reception contract information judged to be the information which should be managed to the site of broadcast of the above 2nd with the selection means of the above 2nd of the site of broadcast of the above 2nd, Or the 2nd packet means forming which forms a reception contract packet from the reception contract information sent as information which should be managed from the site of broadcast of the above 1st to the site of broadcast of the above 2nd, The reception contract information packet of the 2nd broadcast from the packet means forming of the above 2nd, The 2nd [which is sent from the site of broadcast of the above 1st] mixed means which mixes the reception

contract information packet of the 1st broadcast, Management equipment of the reception contract information characterized by having a means to include the reception contract information packet of broadcast of the mixed above 2nd, and the reception contract information packet of broadcast of the above 1st in a packet stream, and to transmit.

[Claim 2] Management equipment of the reception contract information according to claim 1 which was made to distinguish information by which the above-mentioned reception contract information should be managed to the site of broadcast of the above 1st, or information which should be managed to the site of broadcast of the above 2nd with Card ID.

[Claim 3] The discernment by the above-mentioned card ID is management equipment of the reception contract information according to claim 2 which was made to perform by the high order bit of the above-mentioned card ID.

[Claim 4] In the management equipment of the reception contract information on multi-channel broadcast that the 1st broadcast which performs multi-channel broadcast using the 1st satellite, and the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite were received by the common decoder The 1st customer management tool with which the site of broadcast of the above 1st sends out reception contract information, The information by which the reception contract information from the customer management tool of the above 1st should be managed to the site of the 1st broadcast, or the information which should be managed to the site of the 2nd broadcast is distinguished. A selection means to send the above-mentioned reception contract information to the site of broadcast of the above 2nd if it is the information which processes the above-mentioned reception contract information within the customer management tool of the above 1st if it is the information which should be managed to the site of the 1st broadcast, and should be managed to the site of broadcast of the above 2nd, it should be managed to the site of broadcast of the above 1st with the selection means of the site of broadcast of the above 1st -- ** -- with the 1st packet means forming which forms a reception contract packet from the judged reception contract information The reception contract information packet of the site of the 1st broadcast from the packet means forming of the above 1st, A mixed means to mix the reception contract information packet sent from the site of broadcast of the above 2nd, It has a means to include the reception contract information packet of broadcast of the mixed above 1st, and the reception contract information packet of broadcast of the above 2nd in a packet stream, and to transmit. The 2nd customer management tool with which the site of broadcast of the above 2nd sends out reception contract information, and the customer management tool of the above 2nd Information is exchanged between the customer management tools of the above 1st of the site of broadcast of the above 1st. The reception contract information outputted as information which should be managed to the site of the 2nd broadcast from the customer management tool of the above 2nd, or as information which should be managed from the site of broadcast of the above 1st to the site of broadcast of the above 2nd Management equipment of the reception contract information characterized by having a means to include the reception contract information packet of broadcast of the 2nd packet means forming and the above 2nd which forms a reception contract packet in a packet stream, and to transmit from the sent reception contract information.

[Claim 5] Management equipment of the reception contract information according to claim 4 which was made to distinguish information by which the above-mentioned reception contract information should be managed to the site of broadcast of the above 1st, or information which should be managed to the site of broadcast of the above 2nd with Card ID.

[Claim 6] The discernment by the above-mentioned card ID is management equipment of the reception contract information according to claim 5 which was made to perform by the high order bit of the above-mentioned card ID.

[Claim 7] In the management method of the reception contract information on multi-channel broadcast that the 1st broadcast which performs multi-channel broadcast using the 1st satellite, and the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite were received by the common decoder To the site of the 1st broadcast, the information by which the reception contract information from the 1st customer management tool should be managed to the site of the 1st broadcast, or the

information which should be managed to the site of the 2nd broadcast is distinguished. If it is the information which should be managed to the site of broadcast of the above 1st, the above-mentioned reception contract information is processed within the customer management tool of the above 1st. If it is the information which should be managed to the site of broadcast of the above 2nd, the above-mentioned reception contract information to the site of broadcast of the above 2nd Delivery, The reception contract information judged to be the information which should be managed to the site of broadcast of the above 1st, The reception contract information packet of the 1st broadcast is formed from the reception contract information sent as information which should be managed from the site of broadcast of the above 2nd to the site of broadcast of the above 1st. Or the reception contract information packet of broadcast of the above 1st, The reception contract information packet of the 2nd broadcast sent from the site of broadcast of the above 2nd is mixed. The reception contract information packet of broadcast of the mixed above 1st and the reception contract information packet of broadcast of the above 2nd are included in a packet stream, and it transmits. To the site of broadcast of the above 2nd The information by which the reception contract information from the customer management tool of the above 2nd should be managed to the site of broadcast of the above 2nd, or the information which should be managed to the site of the 1st broadcast is distinguished. If it is the information which should be managed to the site of broadcast of the above 2nd, the above-mentioned reception contract information is processed within the customer management tool of the above 2nd. If it is the information which should be managed to the site of broadcast of the above 1st, the above-mentioned reception contract information to the site of broadcast of the above 1st Delivery, The reception contract information judged to be the information which should be managed to the site of broadcast of the above 2nd, The reception contract packet of the 2nd broadcast is formed from the reception contract information sent as information which should be managed from the site of broadcast of the above 1st to the site of broadcast of the above 2nd. Or the reception contract information packet of broadcast of the above 2nd, The reception contract information packet of the 1st broadcast sent from the site of broadcast of the above 1st is mixed. The management method of the reception contract information characterized by including the reception contract information packet of broadcast of the mixed above 2nd, and the reception contract information packet of broadcast of the above 1st in a packet stream, and making it transmit.

[Claim 8] The management method of the reception contract information according to claim 7 which was made to distinguish information by which the above-mentioned reception contract information should be managed to the site of broadcast of the above 1st. or information which should be managed to the site of broadcast of the above 2nd with Card ID.

[Claim 9] The discernment by the above-mentioned card ID is the management method of the reception contract information according to claim 8 which was made to perform by the high order bit of the above-mentioned card ID.

[Claim 10] In the receiving set of the multi-channel broadcast which received the 1st broadcast which performs multi-channel broadcast using the 1st satellite, and the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite by the common decoder A means to receive the reception contract information packet of broadcast of the above 1st, or the reception contract information packet of broadcast of the above 2nd, The receiving set carried out as [have / a means to decode the above-mentioned reception contract information packet, and to record the above-mentioned reception contract information on a card, and a means to identify the reception contract information packet of broadcast of the above-mentioned reception contract information packet of the above 1st, or the reception contract information packet of broadcast of the above 2nd].

[Claim 11] The receiving set according to claim 10 which was made to identify the reception contract information packet of the 1st broadcast of the above-mentioned reception contract information, or the reception contract information packet of broadcast of the above 2nd with Card ID.

[Claim 12] The discernment by the above-mentioned card ID is the receiving set according to claim 11 which was made to perform by the high order bit of the above-mentioned card ID.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is used for managing the viewer of digital satellite broadcasting service, and relates to a receiving set at the suitable management equipment of reception contract information and a suitable management method, and a list.

[0002]

[Description of the Prior Art] In digital satellite broadcasting service, a digital video signal and a sound signal are compressed for example, by the MPEG (Moving Picture Experts Group) method, and are broadcast, while it is possible to transmit the signal of high quality compared with the existing analog broadcasting, frequency use effectiveness improves and many channelization can be attained. Moreover, in digital satellite broadcasting service, it is supposed that it is possible to serve an image, not only voice but data broadcasting, etc.

[0003] Current and the satellite for some digital satellite broadcasting services already are launched, and service of digital satellite broadcasting service is started. And in such digital satellite broadcasting service, the channel which broadcasts contents, such as a sport, a movie, music, and news, is prepared, and several 100 channels are secured as the number of channels of one satellite.

[0004] Furthermore, the satellite for some digital satellite broadcasting services is going to be launched, and service of some digital satellite broadcasting services is going to be started from now on. By such digital satellite broadcast services, it considers preparing the channel which sponsors various kinds of more interesting programs.

[0005] When receiving digital satellite broadcasting service, IRD (Integrated Receiver/Decoder) of the dedication for decoding a video signal and a sound signal is required. If some services of digital satellite broadcasting service appear, service of two or more digital satellite broadcasting services will be joined, and it will be thought that the viewers who think that he wants to enjoy digital satellite broadcasting service increase in number. However, in order to join service of different digital satellite broadcasting service, in purchasing new IRD, it is inconvenient. Then, to enable it to use IRD in common with service of each digital satellite broadcasting service is demanded.

[0006]

[Problem(s) to be Solved by the Invention] IRD of digital satellite broadcasting service is equipped with an IC card, and reception contract information is recorded on this IC card. A receivable channel is set up based on this reception contract information. When service of two or more digital satellite broadcasting services is joined, to be common and to enable it to use it also about the IC card with which this IRD is equipped is desired.

[0007] However, in the former, every satellite operating company publishes an IC card uniquely, and each firm is managing the customer uniquely. Thus, since each satellite operating company was managing the customer uniquely, it was difficult to communalize the IC card with which IRD is equipped.

[0008] Then, subscriber information is exchanged between each satellite operating company, and it is

possible to communalize an IC card.

[0009] However, use of a common IC card produces the problem of it becoming impossible to manage the customer for every satellite operating company. Moreover, when there is already a satellite operating company which the system has established and it is going to attain communalization of an IC card with the operating company which participates later, repair of a system is needed and it can consider that it becomes impossible to use an existing system and an existing IC card. When it becomes impossible to use an existing system and an existing IC card, damage will be inflicted on the customer who already made the reception contract.

[0010] Therefore, the purpose of this invention is to offer the management equipment and the management method of reception contract information which enabled it to manage that customer certainly by each satellite operating company while an IC card common to receiving broadcast of two or more satellite operating companies is usable.

[0011] Other purposes of this invention are to provide with a receiving set the management equipment of the reception contract information which was made to make usable an IC card common to receiving broadcast of two or more satellite operating companies and a management method, and a list, without adding modification to an existing system and an existing IC card.

[0012]

[Means for Solving the Problem] The 1st broadcast whose invention of claim 1 performs multi-channel broadcast using the 1st satellite. In the management equipment of the reception contract information on multi-channel broadcast that the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite was received by the common decoder the site of the 1st broadcast The information by which the reception contract information from the 1st customer management tool which sends out reception contract information, and the 1st customer management tool should be managed to the site of the 1st broadcast, or the information which should be managed to the site of the 2nd broadcast is distinguished. The 1st selection means which sends reception contract information to the site of the 2nd broadcast if it is the information which processes reception contract information within the 1st customer management tool if it is the information which should be managed to the site of the 1st broadcast, and should be managed to the site of the 2nd broadcast. The reception contract information judged to be the information which should be managed to the site of the 1st broadcast with the selection means of the site of the 1st broadcast. Or the 1st packet means forming which forms a reception contract information packet from the reception contract information sent as information which should be managed from the site of the 2nd broadcast to the site of the 1st broadcast, The reception contract information packet of the 1st broadcast from the 1st packet means forming, The 1st [which is sent from the site of the 2nd broadcast] mixed means which mixes the reception contract information packet of the 2nd broadcast, It has a mixed means to include the reception contract information packet of the 1st broadcast, and the reception contract information packet of the 2nd broadcast in a packet stream, and to transmit. The site of the 2nd broadcast The 2nd customer management tool which sends out reception contract information, and the 2nd customer management tool Information is exchanged between the 1st customer management tool of the site of the 1st broadcast. The information by which the reception contract information from the 2nd customer management tool should be managed to the site of the 2nd broadcast, or the information which should be managed to the site of the 1st broadcast is distinguished. The 2nd selection means which sends reception contract information to the site of the 1st broadcast if it is the information which processes reception contract information within the 2nd customer management tool if it is the information which should be managed to the site of the 2nd broadcast, and should be managed to the site of the 1st broadcast, The reception contract information judged to be the information which should be managed to the site of the 2nd broadcast with the 2nd selection means of the site of the 2nd broadcast, Or the 2nd packet means forming which forms a reception contract packet from the reception contract information sent as information which should be managed from the site of the 1st broadcast to the site of the 2nd broadcast, The reception contract information packet of the 2nd broadcast from the 2nd packet means forming, The 2nd [which is sent from the site of the 1st broadcast] mixed means which mixes the reception contract information packet of the 1st broadcast, It is management equipment

of the reception contract information characterized by having a mixed means to include the reception contract information packet of the 2nd broadcast, and the reception contract information packet of the 1st broadcast in a packet stream, and to transmit.

[0013] The 1st broadcast whose invention of claim 4 performs multi-channel broadcast using the 1st satellite, In the management equipment of the reception contract information on multi-channel broadcast that the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite was received by the common decoder the site of the 1st broadcast The information by which the reception contract information from the 1st customer management tool which sends out reception contract information, and the 1st customer management tool should be managed to the site of the 1st broadcast, or the information which should be managed to the site of the 2nd broadcast is distinguished. A selection means to send reception contract information to the site of the 2nd broadcast if it is the information which processes reception contract information within the 1st customer management tool if it is the information which should be managed to the site of the 1st broadcast, and should be managed to the site of the 2nd broadcast, it should be managed to the site of the 1st broadcast with the selection means of the site of the 1st broadcast -- ** -- with the 1st packet means forming which forms a reception contract packet from the judged reception contract information The reception contract information packet of the site of the 1st broadcast from the 1st packet means forming, A mixed means to mix the reception contract information packet sent from the site of the 2nd broadcast, It has a mixed means to include the reception contract information packet of the 1st broadcast, and the reception contract information packet of the 2nd broadcast in a packet stream, and to transmit. The site of the 2nd broadcast 2nd customer management tool which sends out reception contract information The 2nd customer management tool Information is exchanged between the 1st customer management tool of the site of the 1st broadcast. The reception contract information outputted as information which should be managed to the site of the 2nd broadcast from the 2nd customer management tool, Or the 2nd packet means forming which forms a reception contract packet from the reception contract information sent as information which should be managed from the site of the 1st broadcast to the site of the 2nd broadcast, It is management equipment of the reception contract information characterized by having a means to include the reception contract information packet of the 2nd broadcast in a packet stream, and to transmit.

[0014] The 1st broadcast whose invention of claim 7 performs multi-channel broadcast using the 1st satellite, In the management method of the reception contract information on multi-channel broadcast that the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite was received by the common decoder to the site of the 1st broadcast The information by which the reception contract information from the 1st customer management tool should be managed to the site of the 1st broadcast, or the information which should be managed to the site of the 2nd broadcast is distinguished. If it is the information which should be managed to the site of the 1st broadcast, reception contract information is processed within the 1st customer management tool. If it is the information which should be managed to the site of the 2nd broadcast, reception contract information to the site of the 2nd broadcast Delivery, The reception contract information judged to be the information which should be managed to the site of the 1st broadcast, The reception contract information packet of the 1st broadcast is formed from the reception contract information sent as information which should be managed from the site of the 2nd broadcast to the site of the 1st broadcast. Or the reception contract information packet of the 1st broadcast, The reception contract information packet of the 2nd broadcast sent from the site of the 2nd broadcast is mixed. The reception contract information packet of the 1st mixed broadcast and the reception contract information packet of the 2nd broadcast are included in a packet stream, and it transmits. To the site of the 2nd broadcast The information by which the reception contract information from the 2nd customer management tool should be managed to the site of the 2nd broadcast, or the information which should be managed to the site of the 1st broadcast is distinguished. If it is the information which should be managed to the site of the 2nd broadcast, reception contract information is processed within the 2nd customer management tool. If it is the information which should be managed to the site of the 1st broadcast, reception contract information to the site of the 1st broadcast Delivery, The reception contract information judged to be the information which should be managed to the site of

the 2nd broadcast, The reception contract packet of the 2nd broadcast is formed from the reception contract information sent as information which should be managed from the site of the 1st broadcast to the site of the 2nd broadcast. Or the reception contract information packet of the 2nd broadcast, The reception contract information packet of the 1st broadcast sent from the site of the 1st broadcast is mixed. It is the management method of the reception contract information characterized by the mixed thing include the reception contract information packet of the 2nd broadcast, and the reception contract information packet of the 1st broadcast in a packet stream, and it was made to transmit.

[0015] In the receiving set of the multi-channel broadcast which received the 1st broadcast whose invention of claim 10 performs multi-channel broadcast using the 1st satellite, and the 2nd broadcast which performs multi-channel broadcast using the 2nd satellite by the common decoder A means to receive the reception contract information packet of the 1st broadcast, or the reception contract information packet of the 2nd broadcast, It is the receiving set carried out as [have / a means to decode a reception contract information packet and to record reception contract information on a card, and a means by which a reception contract information packet identifies the reception contract information packet of the 1st broadcast, or the reception contract information packet of the 2nd broadcast].

[0016] It is supposed that the card ID of the IC card which the 1st satellite operating company publishes, and the card ID of the IC card which the 2nd satellite operating company publishes are identifiable, the IC card published by the 1st satellite operating company is managed by the 1st satellite operating-company side, and the IC card which ***** (ed) by the 2nd satellite operating company is managed by the 2nd satellite operating-company side. And if a new satellite operating company and a new contract are performed, reception contract information will be sent to the satellite operating-company side which has already contracted from the satellite operating company which newly contracts, and it will be managed using the customer information by the side of the satellite operating company which has already contracted. Thereby, broadcast of two satellite operating companies serves as ability ready for receiving with one IC card.

[0017] Moreover, it is supposed that the card ID of the IC card which the 1st satellite operating company publishes, and the card ID of the IC card which the 2nd satellite operating company publishes are identifiable. For this reason, according to the IC card equipped with guidance of a contact etc., it can direct appropriately by the receiving side.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing. Drawing 1 shows the outline of an example of the satellite broadcasting service system which can apply this invention.

[0019] In drawing 1, 1 is the site of the 1st satellite operating company. To the site 1 of the 1st satellite operating company, digital satellite broadcasting service of many channels is performed. 2 is the site of the 2nd satellite operating company. To the site 2 of the 2nd satellite management, digital satellite broadcasting service of many channels is performed independently with the 1st satellite operating company.

[0020] The 1st satellite operating company 1 and the 2nd satellite operating company 2 are made the same about fundamental methods, such as a compression method of a digital video signal or a digital audio signal, and a transmission format.

[0021] That is, in the 1st satellite operating company and the 2nd satellite operating company, edit processing of a broadcast image material was performed, the video signal and audio signal which were obtained from this broadcast image material were compressed with the MPEG 2 method, the QPSK (Quadrature Phase Shift Keying) modulation was carried out, and the signal is transmitted towards a satellite by the predetermined subcarrier. An MPEG 2 method compresses a video signal with DCT (Discrete Cosine Transform) and a variable-length sign.

[0022] The sending signal from the site 1 of the 1st satellite operating company is sent to the reception facility 5 of each home through the satellite 3 which the 1st satellite operating company has managed. The sending signal from the site 2 of the 2nd satellite operating company is sent to the reception facility 5 of each home through the satellite 4 which the 2nd satellite operating company has managed. The

satellite 4 which the satellite 3 and the 2nd satellite operating company which the 1st satellite operating company has managed have managed is at a standstill in the location where it approached on the geostationary orbit.

[0023] As reception facility 5 of each home, the parabolic antenna 6 which receives the signal from satellites 3 and 4, and the television receiver 8 with which the video signal and video signal from IRD7 and IRD7 which restore to an input signal and decode a video signal and an audio signal are supplied are formed.

[0024] The satellite 3 which the 1st satellite operating company has managed, and the satellite 4 which the 2nd satellite operating company has managed are standing it still in the location where it approached on the geostationary orbit. And in the site 1 of the 1st satellite operating company, and the site 2 of the 2nd satellite operating company, processing is performed by the same method about fundamental methods, such as a compression method of a digital video signal or a digital audio signal, and a transmission format. For this reason, it can receive using the common parabolic antenna 6, and the signal from the satellite 3 which the 1st satellite operating company has managed, and the signal from the satellite 4 which the 2nd satellite operating company has managed can be decoded using common IRD7, and can be projected to a television receiver 8.

[0025] IRD7 is equipped with IC card 9 which the 1st satellite operating company publishes. As shown in drawing 2 A and drawing 2 B, there are IC card 9A which the 1st satellite operating company publishes, and IC card 9B which the 2nd satellite operating company publishes in an IC card. Except for the printer graphic and pattern of the external surface, the appearance and internal configuration of IC card 9A (drawing 2 A) which the 1st satellite operating company publishes, and IC card 9B (drawing 2 B) which the 2nd satellite operating company publishes are the same. And the contractor information enciphered as Card ID is recorded on IC card9B which IC card9A and the 2nd satellite operating company which the 1st satellite operating company publishes publish. There is a translation table for solving encryption of contractor information in IC cards 9A and 9B.

[0026] The reception contract information on IC card 9A which the 1st satellite operating company publishes is managed by the 1st satellite operating company. If it contracts with the 1st satellite operating company, reception contract information will be formed to the site 1 of the 1st satellite operating company, and the packet of this reception contract information will be formed. In addition, the packet of this reception contract information is exchanged to the site 1 of the 1st satellite operating company, and the site 2 of the 2nd satellite operating company so that it may explain later. Therefore, it is received by the reception facility 5 of each home through a satellite 3 or 4 from a site 1 or 2, and the packet of this reception contract information is recorded on IC card 9A which the 1st satellite operating company publishes.

[0027] The reception contract information on IC card 9B which the 2nd satellite operating company publishes is managed by the 2nd satellite operating company. If it contracts with the 2nd satellite operating company, reception contract information will be formed to the site 2 of the 2nd satellite operating company, and the packet of this reception contract information will be formed. The packet of this reception contract information is exchanged to the site 2 of the 2nd satellite operating company, and the site 1 of the 1st satellite operating company. Therefore, it is received by the reception facility 5 of each home through a satellite 4 or 3 from a site 2 or 1, and the packet of this reception contract information is recorded on IC card 9B which the 2nd satellite operating company publishes.

[0028] Moreover, if the viewer who has already contracted with the 1st satellite operating company performs the 2nd satellite operating company and contract, this reception contract information will be formed by the 2nd satellite operating company. And this reception contract information is sent to the 1st satellite operating company which has already contracted, and is managed by the 1st satellite operating-company side. The packet of this reception contract information is formed by the 1st satellite operating company. It is received by the reception facility 5 of each home through a satellite 3 or 4 from a site 1 or 2, and the packet of this reception contract information is recorded on IC card 9A which the 1st satellite operating company publishes.

[0029] Thereby, he can watch now not only broadcast of the 1st satellite operating company but

broadcast of the 2nd satellite operating company using the same IC card 9A.

[0030] Moreover, if the viewer who has already contracted with the 2nd satellite operating company performs the 1st satellite operating company and contract, this reception contract information will be formed by the 1st satellite operating company. And this reception contract information is managed by the 2nd satellite operating company which has already contracted. The packet of this reception contract information is formed by the 2nd satellite operating company. It is received by the reception facility 5 of each home through a satellite 4 or 3 from a site 2 or 1, and the packet of this reception contract information is recorded on IC card 9B which the 2nd satellite operating company publishes.

[0031] Thereby, he can watch now not only broadcast of the 2nd satellite operating company but broadcast of the 1st satellite operating company using the same IC card 9B.

[0032] Drawing 3 A shows an example of the configuration of Card ID. As shown in drawing 3 A, the card ID of IC card 9A which the 1st satellite operating company publishes, and the card ID of IC card 9B which the 2nd satellite operating company publishes consist of 6 bytes. It is used in order that MSB of these (most significant bit) may identify whether it is the card which which satellite operating company published.

[0033] That is, it is referred to as IC card9A which the 1st satellite operating company publishes if the MSB is "0" as shown in drawing 3 B, and it is referred to as IC card9B which the 2nd satellite operating company publishes if the MSB is "1." As Card ID is shown in drawing 3 C, with therefore, the group of (zero to 224-1) It is used to (224 to 248-1), dividing into two groups of a group, the group from whom Card ID is set to (zero to 224-1) is assigned to the 1st satellite operating company, and the group from whom Card ID is set to (224 to 248-1) is assigned to the 2nd satellite operating company.

[0034] In addition, although divided into 2 groups by MSB of Card ID in the above-mentioned example, if 2 bits of high orders of Card ID are used as shown in drawing 4 , it is possible to use it, dividing into four groups.

[0035] As mentioned above, exchange of reception contract information is performed by the 1st satellite operating company and the 2nd satellite operating company. And from the site 1 of the 1st satellite operating company, the reception contract information on the 1st satellite operating company and the reception contract information on the 2nd satellite operating company are sent. Moreover, from the site 2 of the 2nd satellite operating company, the reception contract information on the 2nd satellite operating company and the reception contract information on the 1st satellite operating company are sent.

[0036] Drawing 5 A shows the case where IRD7 is equipped with IC card 9A which the 1st satellite operating company published. In this case, when the viewer has received the broadcast from the satellite 3 of the 1st satellite operating company, the packet PEMM1 of the reception contract information on the 1st satellite operating company sent from the site 1 of the 1st satellite operating company is received by IRD7 through a satellite 3, and this reception contract information is recorded on IC card 9A. Moreover, when the viewer has received the satellite broadcasting service from the satellite 4 of the 2nd satellite operating company, the packet PEMM1 of the reception contract information on the 1st satellite operating company sent from the site 2 of the 2nd satellite operating company is received by IRD7 through a satellite 4, and this reception contract information is recorded on IC card 9A.

[0037] Drawing 5 B shows the case where IRD7 is equipped with IC card 9B which the 2nd satellite operating company published. In this case, when the viewer has received the satellite broadcasting service from the satellite 4 of the 2nd satellite operating company, the packet PEMM2 of the reception contract information on the 2nd satellite operating company sent from the site 2 of the 2nd satellite operating company is received by IRD7 through a satellite 4, and this contractor information EMM2 is recorded on IC card 9B. When the viewer has received the satellite broadcasting service from the satellite 3 of the 1st satellite operating company, the packet PEMM2 of the reception contract information on the 2nd satellite operating company sent from the site 1 of the 1st satellite operating company is received by IRD7 through a satellite 3, and this contractor information EMM2 is recorded on IC card 9B.

[0038] Thus, in the system to which this invention was applied, ID of the IC card which the 1st satellite

operating company manages, and the card ID of the IC card which the 2nd satellite operating company manages are discriminable with that most significant bit. For this reason, the satellite operating company which has published that IC card is discriminable from Card ID. Thereby, in the IRD7 side, as shown in drawing 6, guidance of the issue origin can be displayed, for example.

[0039] That is, if the best bit of Card ID is judged that it is "0" and the IC card with which it was equipped is the thing of the 1st satellite operating company, as shown in drawing 6 A, the message "inform the 1st satellite operating company" will be displayed on the display or ONSUKURIN of IRD7. If the best bit of Card ID is judged that it is "1" and the IC card with which it was equipped is the thing of the 2nd satellite operating company, as shown in drawing 6 B, the message "inform the 2nd satellite operating company" will be displayed on the display or ONSUKURIN of IRD7. For a user, it is ***** by seeing this display to get to know which satellite commissioned company should be contacted.

[0040] Drawing 7 shows the outline of the broadcast equipment for performing multi-channel digital broadcast in the above-mentioned site 1 and above-mentioned site 2 of a system. This multi-channel digital broadcast equipment is with the 1st satellite operating company and the 2nd satellite operating company, and the same thing is used fundamentally.

[0041] This digital broadcast equipment has the broadcast programming system (BPDS) 21, the baseband system (BASEBAND) 22, the central processing system 23, the customer management system (SMS) 24, the customer viewing-and-listening authorization system (SAS) 25, the IF system 26, and the shared bus system 27.

[0042] The broadcast programming system (BPDS) 21 performs registration of a broadcast image material, and organization of management and an image program. This broadcast programming system (BPDS) 21 consists of M systems from #1 to #M.

[0043] The base BAIDO system (BASEBAND) 22 is performing sending out of the image material by the acceptance, cart, and server of an image material by which a circuit input is carried out, switching of the material by the master switcher, etc., and has baseband C-system (BCS) 31 and router C-system (RCC) 32.

[0044] The central processing unit 23 has the network management database (NMD) 33, the program guide system (PGS) 34, encoder C-system (ECS) 35, multiplexer C-system (MCS) 36, the EPG (electronic program guide) flow control (EPG-FC) 37, the encoder (ENC) 38, the multiplexer (MUX) 39, and the download server (DLS) 40.

[0045] The network management database (NMD) 33 distributes information as which only a specific viewer can regard all the information that inputted a setup of a broadcast system and was inputted by the broadcast programming system (BDPS) 21, and the information about a schedule, configuration information which is the common information on a system.

[0046] The program guide system (PGS) 34 generates the EPG sending-out data of the service sent out by one transponder, and a schedule control file.

[0047] A multiplexer (MUX) 39 is serial in video, an audio packet, etc. which were multiplexed one dimension, and generates reception and an internal packet. Furthermore, the EMC packet of a program unit is generated. These videos, an audio packet, and all control packets required for broadcast system control are multiplexed, and are outputted as one stream.

[0048] The customer management system (SMS) 24 is performing customer management of customer registration, tariff listening to charged broadcast, etc. The customer management system (SMS) 24 has managed whether it is the contract of receiving which channel, for every customer, and sends out reception contract information (EMM) based on this contract. Moreover, this customer management system (SMS) 24 is performing accounting management of charged broadcast.

[0049] The customer viewing-and-listening authorization system (SAS) 25 enciphers reception and this reception contract information for the reception contract information (EMM) from a customer management system (SMS) 24 by encryption algorithm, and sends out an EMM packet.

[0050] The IF system 26 has the QPSK modulation (QPSK) section 41 and the IF switcher (IFSW) 42. It is sent to the IF system 26, a QPSK modulation is carried out in IF system section 26, and the packet to send out is changed into predetermined carrier frequency. Power amplification of the output of this IF

system section 26 is supplied and carried out to an output amplifier 27. And this signal is outputted from a parabolic antenna 28, and is transmitted towards a satellite 3 or a satellite 4.

[0051] A shared bus system 27 is equipped with the alarm for indicating the system alarm by detection and a monitor system (AMS) 43, and the network 44 that performs backbone of a system.

[0052] Drawing 8 shows the configuration of IRD7 of each home. In drawing 8, a satellite 3 or the signal from 4 is received by the parabolic antenna 6. LNB (Low Noise Block Downconverter)51 is attached in a parabolic antenna 6. The down convert of the input signal is carried out by LNB51.

[0053] The output of LNB51 is supplied to the front end section 52. The front end section 52 has the carrier selection section 53, the QPSK recovery section 54, and the FEC decoder section 54.

[0054] A frequency setting signal is supplied to the carrier selection section 53 from a host processor 50. This frequency setting signal is generated based on the channel setting signal from a viewer given to the input section 70. The carrier selection section 53 of the front end section 52 is controlled by the frequency setting signal from this host processor 50, and the signal of predetermined received frequency is chosen by it.

[0055] The output of the carrier selection section 53 is supplied to the QPSK recovery section 54. The QPSK recovery section 54 carries out the QPSK recovery of the input signal chosen by the carrier selection section 53.

[0056] The output of the QPSK recovery section 54 is supplied to the FEC decoder section 55. Error correction processing etc. is performed in the FEC decoder section 55. The output of this FEC decoder section 55 is sent to the transport section 57.

[0057] The transport section 57 has the demultiplexer 59 with the descrambler 58. A descrambler 58 cancels this scramble, when the receiving program is scrambled. A demultiplexer 59 distributes a video packet, an audio packet, an EPG packet, etc. from a packet stream.

[0058] When the program of the Sir pith (channel) ordered reception from the viewer is scrambled, a host processor 50 reads the information memorized by IC card 9, and controls the descrambler 58 of the transport section 57 corresponding to the information. Namely, when access is permitted, a descrambler 58 descrambles the packet currently scrambled from the FEC decoder 55, and outputs it to a demultiplexer 59. When [which is not] access is permitted, a host processor 50 does not make a descrambler 58 perform processing of a differential-gear clan bull. Consequently, a viewer can view and listen to the program a contract of is not made substantially.

[0059] A video packet, an audio packet, and an EPG packet are separated by the demultiplexer 59. A video packet is sent to the video decoder 60, an audio packet is sent to the audio decoder 61, and an EPG packet is sent to the EPG processing processor 62.

[0060] the video data into which the video decoder 60 was inputted -- an MPEG 2 method -- decoding -- a luminance signal Y and a color-difference signal (R-Y) -- and (B-Y) -- from -- the becoming component video signal is formed. This component video signal is supplied to the NTSC encoder 64. the NTSC encoder 64 -- a luminance signal Y and a color-difference signal (R-Y) -- and (B-Y) -- from -- the becoming component video signal is changed into the composite video signal of NTSC system. The video signal of this NTSC system is outputted from an output terminal 66.

[0061] The audio decoder 61 decodes the inputted audio data by the MPEG 2 method, and forms a PCM audio signal. This PCM audio signal is supplied to the D/A transducer 65. A PCM audio signal is changed into an analog audio signal by the D/A transducer 65. This analog audio signal is outputted from an output terminal 67.

[0062] The EPG processing processor 62 generates the data for indicating by onscreen one, and outputs them to the NTSC encoder 64 while it supplies EPG data to a host processor 50 corresponding to the command from a host processor 50. Thereby, it projects an electronic program on a screen.

[0063] Moreover, the output of a host processor 50 is supplied to a display 69. Various kinds of displays are performed to this display 69. Moreover, a modem 68 is connected to a host processor 50. The viewing-and-listening hysteresis of PPV (Pay Per View) is saved at IC card 9, and is sent to the customer management system (SMS) of each satellite commissioned company through a modem 66 for every predetermined period.

[0064] Drawing 9 shows an example of the viewer managerial system in the system by which this invention was applied. In drawing 9, interface 71A is prepared in customer management system (SMS) 24A of the 1st satellite operating company, and interface 71B is prepared in customer management system 24B of the 2nd satellite operating company. Interface 71 of customer management system (SMS) 24A of this 1st satellite operating company A and interface 71 of customer management system (SMS) 24B of 2nd satellite operating company B are connected, and reception contract information and viewing-and-listening hysteresis information are exchanged between customer management system (SMS) 24A of the 1st satellite operating company, and customer management system (SMS) 24B of the 2nd satellite operating company.

[0065] If a new viewer makes the 1st satellite operating company and contract, from customer management system (SMS) 24A of the 1st satellite operating company, reception contract information EMM1 on the 1st operating company will be published. Moreover, if the viewer who has made the 2nd satellite operating company and contract already makes the 1st satellite operating company and contract, from customer management system (SMS) 24A of the 1st satellite operating company, reception contract information EMM2 on the 2nd operating company will be published.

[0066] Moreover, if a new viewer makes the 2nd satellite operating company and contract, from customer management system (SMS) 24B of the 1st satellite operating company, reception contract information EMM2 on the 2nd operating company will be published. Moreover, if the viewer who has made the 1st satellite operating company and contract already makes the 2nd satellite operating company and contract, from customer management system (SMS) 24A of the 2nd satellite operating company, reception contract information EMM1 on the 1st operating company will be published.

[0067] EMM selector 70A is prepared in customer management system (SMS) 24A of the 1st satellite operating company. The contract information to which this EMM selector 70A is outputted from customer management system (SMS) 24A of the 1st satellite operating company sorts out the reception contract information EMM1 on the 1st operating company, or the reception contract information EMM2 on the 2nd operating company. If it is the contract information EMM1 on the 1st operating company, the contract information EMM1 on the 1st operating company is sent to customer viewing-and-listening authorization system (SAS) 25A of the 1st operating company, and if it is the contract information EMM2 on the 2nd operating company, it is sent to customer viewing-and-listening authorization system (SAS) 25B of the 2nd operating company.

[0068] As mentioned above, MSB of Card ID differs by the 1st satellite management firm and the 2nd satellite operating company. Therefore, MSB of this card ID can sort out the reception contract information EMM1 on the 1st operating company, or the reception contract information EMM2 on the 2nd operating company.

[0069] Similarly, EMM selector 70B is prepared in customer management system (SMS) 24B of the 2nd satellite operating company. The reception contract information that this EMM selector 70B is outputted from customer management system (SMS) 24B of the 2nd satellite operating company sorts out the reception contract information EMM2 on the 2nd satellite operating company, or the reception contract information EMM1 on the 1st satellite operating company. If it is the contract information EMM1 on the 1st satellite operating company, it is sent to customer viewing-and-listening authorization system (SAS) 25A of the 1st operating company, and if it is the contract information EMM2 on the 2nd operating company, it is sent to customer viewing-and-listening authorization system (SAS) 25B of the 2nd operating company.

[0070] The reception contract information EMM1 on the 1st satellite operating company sorted out by EMM selector 70 of subscriber information [on the 1st satellite operating company sorted out by EMM selector 70 of customer management system (SMS) 24A of 1st satellite operating company A] EMM1 and customer management system (SMS) 24B of 2nd operating company B is sent to customer viewing-and-listening authorization system (SAS) 25A of the 1st satellite operating company. The 1st satellite operating company has managed IC card 9A published from the 1st satellite operating company, and the customer information is registered into database 72A. Corresponding to the card ID of the IC card managed by the 1st operating company, the key for encryption is published from data beta 72A. The

reception contract information EMM1 is enciphered with this encryption key.

[0071] The reception contract information EMM2 on the 2nd satellite operating company sorted out by EMM selector 70 of customer management system (SMS) 25B of reception contract information [on the 2nd satellite operating company sorted out by EMM selector 70 of customer management system (SMS) 24A of 1st operating company A] EMM2 and 2nd satellite operating company B is sent to customer viewing-and-listening authorization system (SAS) 25B of the 2nd satellite operating company. The 2nd satellite operating company has managed IC card 9B published from the 2nd satellite operating company, and the customer information is registered into database 72B. Corresponding to the card ID of the IC card managed by the 2nd operating company, the key for encryption is published from data beta 72B. The reception contract information EMM2 is enciphered with this encryption key.

[0072] It is sent to multiplexer 39B of the 2nd satellite operating company while customer viewing-and-listening authorization system (SAS) 25A of the 1st satellite operating company enciphers the contractor information EMM1 on the 1st satellite operating company, forms the EMM packet PEMM1 and sends this to multiplexer 39A of the 1st satellite operating company.

[0073] It is sent to multiplexer 39A of the 1st satellite operating company while customer viewing-and-listening authorization system (SAS) 25B of the 2nd satellite operating company enciphers the contractor information EMM2 on the 2nd satellite operating company, forms the EMM packet PEMM2 and sends this to multiplexer 39B of the 2nd satellite operating company.

[0074] EMM mixer 74A is prepared in multiplexer 39A of the 1st satellite operating company. By EMM mixer 74A, the EMM packet PEMM1 of the 1st satellite operating company from customer viewing-and-listening authorization system (SAS) 25A of the 1st satellite operating company and the EMM packet PEMM2 of the 2nd satellite operating company from customer viewing-and-listening authorization system (SAS) 25B of the 2nd satellite operating company are mixed. It is transmitted from the site of the 1st satellite operating company, and these mixed EMM packets PEMM1 and PEMM2 are sent to a reception facility of each home through a satellite 3, and are recorded on IC card 9A or 9B.

[0075] EMM mixer 74B is prepared in multiplexer 39B of the 2nd satellite operating company. By EMM mixer 74B, the EMM packet PEMM2 of the 2nd satellite operating company from customer viewing-and-listening authorization system (SAS) 25B of the 1st satellite operating company and the EMM packet PEMM1 of the 1st satellite operating company from customer viewing-and-listening authorization system (SAS) 25A of the 1st satellite operating company are mixed. It is transmitted from the site of the 2nd satellite operating company, and these mixed EMM packets PEMM1 and PEMM2 are sent to a reception facility of each home through a satellite 4, and are recorded on IC card 9A or 9B.

[0076] Thus, the EMM packet PEMM1 of the 1st satellite operating company and the EMM packet PEMM2 of the 2nd satellite operating company are exchanged mutually. In this case, from the satellite 3 of the 1st satellite operating company, the EMM packet PEMM1 of the 1st satellite operating company and the EMM packet PEMM2 of the 2nd satellite operating company are sent. Moreover, from the satellite 4 of the 2nd satellite operating company, the EMM packet PEMM2 of the 2nd satellite operating company and the EMM packet PEMM1 of the 1st satellite operating company are sent. Therefore, in a receiving side, whichever it has received the satellite, if the EMM packet PEMM1 of the 1st satellite operating company and the EMM packet PEMM2 of the 2nd satellite operating company are received, it can **.

[0077] For example, suppose that the viewer who has already contracted with the 2nd satellite operating company made the 1st satellite operating company and contract. If the 1st satellite operating company and contract are made, reception contract information will be published from 1st satellite customer management system (SMS) 24A. This reception contract information is sent to EMM selector 70A. In this case, since this viewer has already contracted the reception contract with the 2nd satellite operating company, this reception contract information is sent to customer viewing-and-listening system (SAS) 25B of the 2nd satellite operating company as reception contract information EMM2 on the 2nd satellite operating company.

[0078] In addition, it can judge whether this viewer has already contracted the reception contract with the 2nd satellite operating company from the most significant bit of Card ID.

[0079] In customer viewing-and-listening system (SAS) 25B of the 2nd satellite operating company, since this viewer's card ID is managed, EMM to this viewer can be processed like usual. And this EMM packet PEMM2 is sent to multiplexer 39A of the 1st broadcast, and multiplexer 39B of the 2nd broadcast.

[0080] Suppose that it contracted in order that the viewer who has contracted with the 1st satellite operating company might watch the program of the 2nd satellite operating company on the contrary. In this case, if it contracts with the 2nd satellite operating company, reception contract information will be published from satellite customer management system (SMS) 24B of the 1st satellite operating company. This reception contract information is sent to EMM selector 70B. Since this viewer has already contracted the reception contract with the 1st satellite operating company, this reception contract information is sent to customer viewing-and-listening system (SAS) 25A of the 1st satellite operating company as reception contract information EMM1 on the 1st satellite operating company.

[0081] In customer viewing-and-listening system (SAS) 25B of the 2nd satellite operating company, since this viewer's card ID is managed, EMM to this viewer can be processed like usual. And this EMM packet PEMM1 is sent to multiplexer 39A of the 1st broadcast, and multiplexer 39B of the 2nd broadcast.

[0082] Thus, this invention is applied, in the system, it can identify by which satellite operating company that card ID is managed by MSB of Card ID, and the group division of the card ID of the card which two satellite operating companies publish is carried out. For this reason, when a contract with a new satellite operating company is performed, that information can be exchanged and the IC card which can receive broadcast of two satellite operating companies in common can be published.

[0083] Moreover, in the system to which this invention was applied, it is exchanged in viewing-and-listening hysteresis information between customer viewing-and-listening system (SAS) 24A of the 1st satellite operating company, and customer viewing-and-listening system (SAS) 24B of the 2nd satellite operating company. And it is discriminable although it is the IC card which which satellite commissioned company manages with Card ID. For this reason, the audience fee gold of a program is manageable using IC card 9A or 9B with **.

[0084] That is, the viewing-and-listening hysteresis information on PPV is sent to customer viewing-and-listening system (SAS) 24A of the 1st satellite operating company, and customer viewing-and-listening system (SAS) 24B of the 2nd satellite operating company through the telephone line. It is judged whether it should manage by the satellite operating company 2nd of whether with the card ID of an IC card, this viewing-and-listening hysteresis information should manage by the 1st satellite operating company.

[0085] If the viewing-and-listening hysteresis information customer viewing-and-listening system (SAS) 24A That the 1st satellite operating company has been sent should manage by the 1st satellite operating company If accounting is performed by customer viewing-and-listening system (SAS) 24A of the 1st satellite operating company and it should manage by the 2nd satellite operating company This viewing-and-listening hysteresis information is sent to customer viewing-and-listening system (SAS) 24B of the 2nd satellite operating company, and accounting is performed by the customer viewing-and-listening system (SAS) 24B side of the 2nd satellite operating company.

[0086] Moreover, if the viewing-and-listening hysteresis information customer viewing-and-listening system (SAS) 24B That the 2nd satellite operating company has been sent should manage by the 2nd satellite operating company If accounting is performed by customer viewing-and-listening system (SAS) 24B of the 2nd satellite operating company and it should manage by the 1st satellite operating company This viewing-and-listening hysteresis information is sent to customer viewing-and-listening system (SAS) 24A of the 1st satellite operating company, and accounting is performed by the customer viewing-and-listening system (SAS) 24A side of the 2nd satellite operating company.

[0087] In addition, if a common accounting system is built to two satellite commissioned companies, this accounting system can perform accounting management to two satellite commissioned companies. When it does in this way, exchange of viewing-and-listening hysteresis program information is unnecessary.

[0088] Drawing 10 shows the gestalt of other operations of this invention. This example uses and is suitable, when there is already a satellite operating company which the system has established and an operating company participates afterwards.

[0089] When service of the 1st satellite operating company is already offered, the customer who did the 1st satellite operating company and contract has the IC card which can receive only broadcast of the 1st satellite operating company. And the customer who newly makes the 2nd satellite operating company and reception contract shall get the common IC card which can receive broadcast of the 1st satellite operating company, and broadcast of the 2nd satellite operating company.

[0090] Therefore, the common IC card which can receive the IC card which can receive only broadcast of the 1st satellite operating company, and broadcast of the 1st satellite operating company and broadcast of the 2nd satellite operating company as a class of card will exist. The common IC card which can receive the IC card which can receive only broadcast of the 1st [these] satellite operating company, and broadcast of the 1st satellite operating company and broadcast of the 2nd satellite operating company is identified with Card ID.

[0091] Namely, as are shown in drawing 11 , and Card ID consists of 6 bytes and it is shown in drawing 11 B It considers as the IC card which can receive only broadcast of the 1st satellite operating company which the 1st satellite operating company has published if 2 bits of high orders of Card ID are "00." If 2 bits of high orders of Card ID are except "00" (namely, "01", "10", "11"), it considers as the common IC card which can receive the broadcast of the 1st satellite operating company and the broadcast of the 2nd satellite operating company which the 2nd satellite operating company has published. Therefore, Card ID will be kicked by the group, as shown in drawing 11 C.

[0092] In addition, considering as the IC card which can receive only broadcast of the 1st satellite operating company, if 2 bits of high orders of Card ID are "00" is published for the card ID of current and the already published IC card from small numerical order, and a current place and 2 bits of high orders of Card ID are because it is "00" altogether.

[0093] In drawing 10 , interface 171A is prepared in customer management system (SMS) 124A of the 1st satellite operating company, and interface 171B is prepared in customer management system 24B of the 2nd satellite operating company. Interface 171 of customer management system (SMS) 124A of this 1st satellite operating company A and interface 171 of customer management system (SMS) 124B of 2nd satellite operating company B are connected, and reception contract information and viewing-and-listening hysteresis information are exchanged between customer management system (SMS) 124A of the 1st satellite operating company, and customer management system (SMS) 124B of the 2nd satellite operating company.

[0094] EMM selector 170A is prepared in customer management system (SMS) 124A of the 1st satellite operating company. As for this EMM selector 170A, the reception contract information from customer management system (SMS) 24A sorts out the reception contract information EMM101 on the 1st satellite operating company, or the reception contract information EMM102 on the 2nd operating company. If it is the reception contract information EMM101 on the 1st satellite operating company, it is sent to customer viewing-and-listening authorization system (SAS) 125A of the 1st operating company, and if it is the reception contract information EMM102 on the 2nd operating company, it is sent to customer viewing-and-listening authorization system (SAS) 125B of the operating company of **** 2.

[0095] This sorting is performed based on Card ID. If 2 bits of high orders of Card ID are "00", it is the reception contract information EMM101 on the 1st satellite operating company, and if 2 bits of high orders of Card ID are except "00", it is the reception contract information EMM102 on the 2nd satellite operating company.

[0096] From customer management system (SMS) 124B of the 2nd satellite operating company, the reception contract information EMM102 on the 2nd satellite operating company is outputted. This reception contract information EMM102 is sent to customer viewing-and-listening authorization system (SAS) 125B of the 2nd satellite operating company.

[0097] If a new viewer contracts with the 1st satellite operating company, from customer management

system (SMS) 124A of the 1st satellite operating company, contractor information EMM101 on the 1st satellite operating company will be published. The contractor information EMM101 on this 1st satellite operating company is sent to customer viewing-and-listening authorization system (SAS) 125A of the 1st satellite operating company.

[0098] The 1st satellite operating company has managed IC card 109A published from the 1st satellite operating company, and the customer information is registered into database 172A. Corresponding to the card ID of the IC card managed by the 1st operating company, the key for encryption is published from data beta 172A. The reception contract information EMM101 is enciphered with this encryption key.

[0099] If a new viewer contracts with the 2nd satellite operating company, from customer management system (SMS) 124B of the 2nd satellite operating company, contractor information EMM102 on the 2nd satellite operating company will be published. The contractor information EMM102 on this 1st satellite operating company is sent to customer viewing-and-listening authorization system (SAS) 125B of the 2nd satellite operating company.

[0100] The 2nd satellite operating company has managed common IC card 109B published from the 2nd satellite operating company, and the customer information is registered into database 172B. Corresponding to the card ID of the IC card managed by the 1st operating company, the key for encryption is published from data beta 172B. The reception contract information EMM102 is enciphered with this encryption key.

[0101] Furthermore, if the viewer who has already contracted with the 2nd satellite operating company performs the 1st satellite operating company and contract, reception contract information will be published from customer management system (SMS) 124A of the 1st satellite operating company. Since this viewer has already performed the 2nd satellite operating company and contract, from customer management system (SMS) 124A of the 1st satellite operating company, reception contract information EMM102 on the 2nd satellite operating company is published. The reception contract information EMM102 on this 2nd satellite operating company is sent to customer viewing-and-listening authorization system (SAS) 125B of the 2nd satellite operating company.

[0102] The 2nd satellite operating company has managed common IC card 109B published from the 2nd satellite operating company, and the customer information is registered into database 172B. Corresponding to the card ID of the IC card managed by the 1st operating company, the key for encryption is published from data beta 172B. The reception contract information EMM102 is enciphered with this encryption key.

[0103] By customer viewing-and-listening authorization system (SAS) 125A of the 1st satellite operating company, it carries out by enciphering the reception contract information EMM101 on the 1st satellite operating company, and the EMM packet PEMM 101 is formed. This is sent to multiplexer 139A of the 1st satellite operating company.

[0104] By customer viewing-and-listening authorization system (SAS) 125B of the 2nd satellite operating company, the reception contract information EMM102 on the 2nd satellite operating company is enciphered, and the EMM packet PEMM102 is formed. While this is sent to multiplexer 139B of the 2nd satellite operating company, it is sent to multiplexer 139A of the 1st satellite operating company.

[0105] EMM mixer 174A is prepared in multiplexer 139A of the 1st satellite operating company. By EMM mixer 174A, the EMM packet PEMM101 of the 1st satellite operating company from customer viewing-and-listening authorization system (SAS) 125A of the 1st satellite operating company and the EMM packet PEMM102 of the 2nd satellite operating company from customer viewing-and-listening authorization system (SAS) 125B of the 2nd satellite operating company are mixed. It is transmitted from the site of the 1st satellite operating company, and these mixed EMM packets PEMM101 and PEMM102 are sent to a reception facility of each home through a satellite 103. The EMM packet PEMM101 is recorded on IC card 109A which the 1st satellite operating company publishes. EMM PAKETSU PEMM102 is recorded on IC card 109B which the 2nd satellite operating company publishes.

[0106] The EMM packet PEMM102 of the 2nd satellite operating company from customer viewing-and-

listening authorization system (SAS) 125B of the 2nd satellite operating company is sent to multiplexer 139B of the 2nd satellite operating company. This EMM packet PEMM102 is transmitted from the site of the 2nd satellite operating company, and it is sent to a reception facility of each home through a satellite 104, and is recorded on common OC card 109B which the 2nd satellite operating company publishes.

[0107]

[Effect of the Invention] According to this invention, it is supposed that the card ID of the IC card which the 1st satellite operating company publishes, and the card ID of the IC card which the 2nd satellite operating company publishes are identifiable, the IC card published by the 1st satellite operating company is managed by the 1st satellite operating-company side, and the IC card which ***** (ed) by the 2nd satellite operating company is managed by the 2nd satellite operating-company side. And if a new satellite operating company and a new contract are performed, reception contract information will be sent to the satellite operating-company side which has already contracted from the satellite operating company which newly contracts, and it will be managed using the customer information by the side of the satellite operating company which has already contracted. Thereby, broadcast of two satellite operating companies serves as ability ready for receiving with one IC card.

[0108] Moreover, according to this invention, it is supposed that the card ID of the IC card which the 1st satellite operating company publishes, and the card ID of the IC card which the 2nd satellite operating company publishes are identifiable. For this reason, according to the IC card equipped with guidance of a contact etc., it can direct appropriately by the receiving side.

[Translation done.]

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the approximate line Fig. used for explanation of an example of the satellite broadcasting service system which can apply this invention.

[Drawing 2] It is the approximate line Fig. used for explanation of the IC card in an example of the satellite broadcasting service system which can apply this invention.

[Drawing 3] It is the approximate line Fig. showing an example of assignment of Card ID.

[Drawing 4] It is the approximate line Fig. showing other examples of assignment of Card ID.

[Drawing 5] It is the approximate line Fig. used for explanation of transmission of the EMM packet in an example of the satellite broadcasting service system which can apply this invention.

[Drawing 6] It is the approximate line Fig. used for explanation of the display in an example of the satellite broadcasting service system which can apply this invention.

[Drawing 7] It is the block diagram of an example of the broadcast equipment in an example of the satellite broadcasting service system which can apply this invention.

[Drawing 8] It is the block diagram of an example of IRD in an example of the satellite broadcasting service system which can apply this invention.

[Drawing 9] It is the block diagram of an example of the viewing-and-listening managerial system with which this invention was applied.

[Drawing 10] It is the block diagram of other examples of the viewing-and-listening managerial system with which this invention was applied.

[Drawing 11] It is the approximate line Fig. showing the example of further others of assignment of Card ID.

[Description of Notations]

1 [... IRD, 9P9A, 9B / ... An IC card, 24, 24A, 24B / ... A customer management system, 25, 25A, 25B / ... A customer viewing-and-listening authorization system, 70A, 70 B...EMM selector, 39A, 39B / ... A multiplexer, 74A, 74 B...EMM mixer] ... The site of the 1st satellite operating company, 2 ... 3 The site of the 2nd satellite operating company, 4 ... A satellite, 7

[Translation done.]

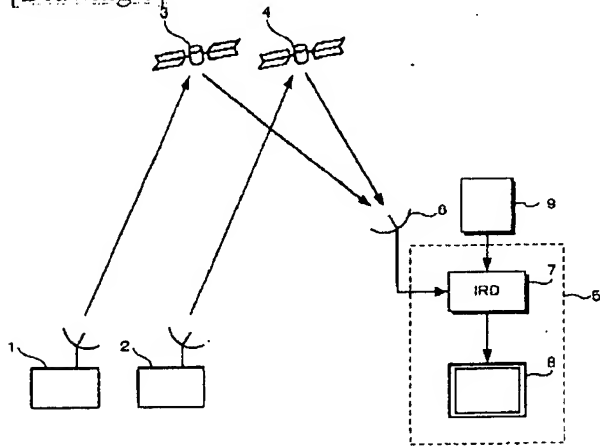
* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

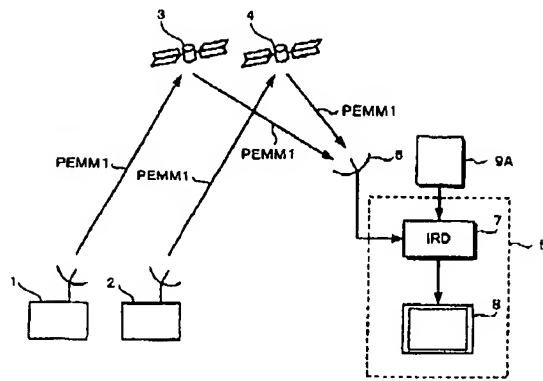
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

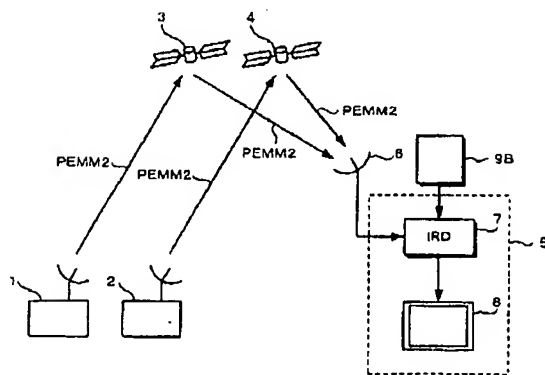
[Drawing 1]



[Drawing 5]



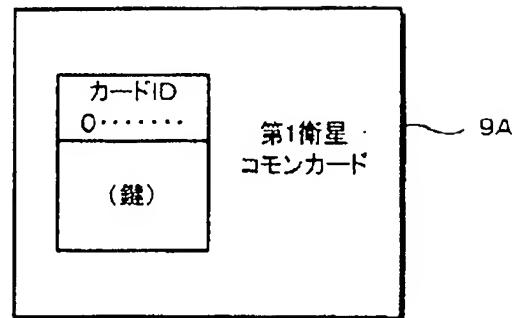
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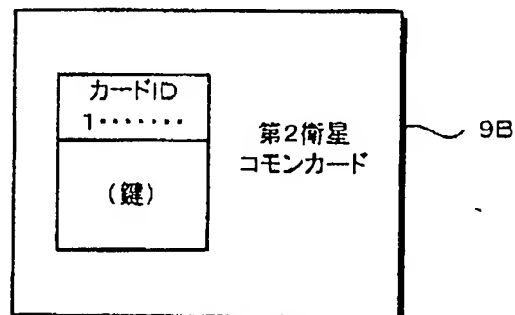
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[Drawing 2]

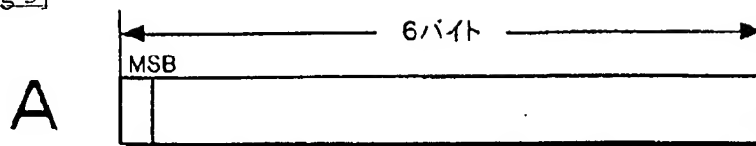
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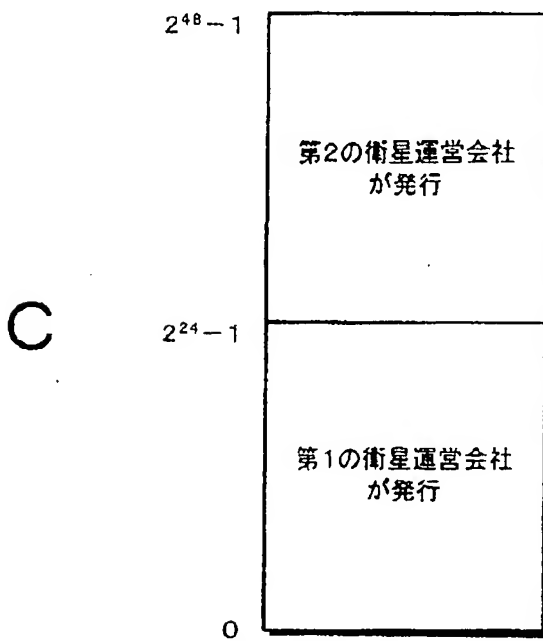


[Drawing 3]



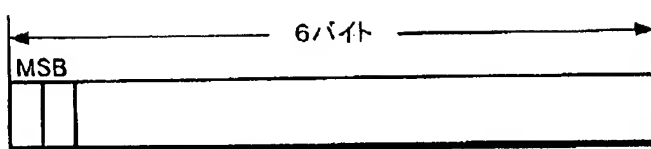
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MSB	
0	第1の衛星運営会社が発行するコモンIDカード
1	第2の衛星運営会社が発行するコモンIDカード



[Drawing 4]

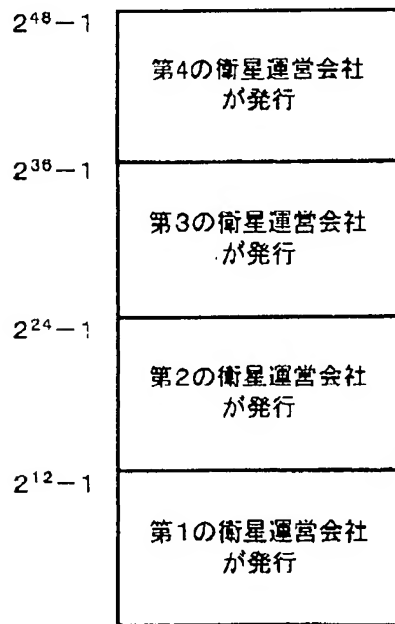
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B

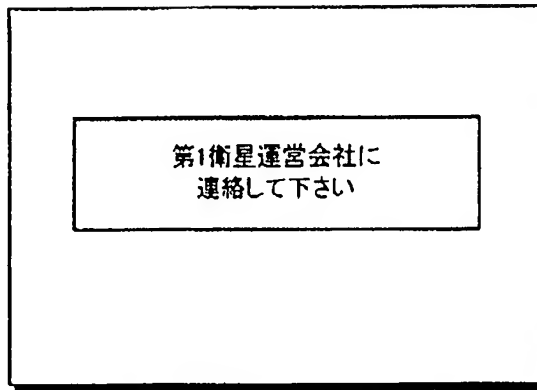
上位2ビット	
00	第1の衛星運営会社が発行するカード
01	第2の衛星運営会社が発行するカード
10	第3の衛星運営会社が発行するカード
11	第4の衛星運営会社が発行するカード

C

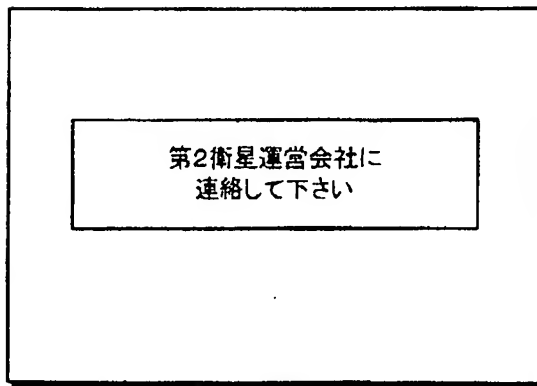


[Drawing 6]

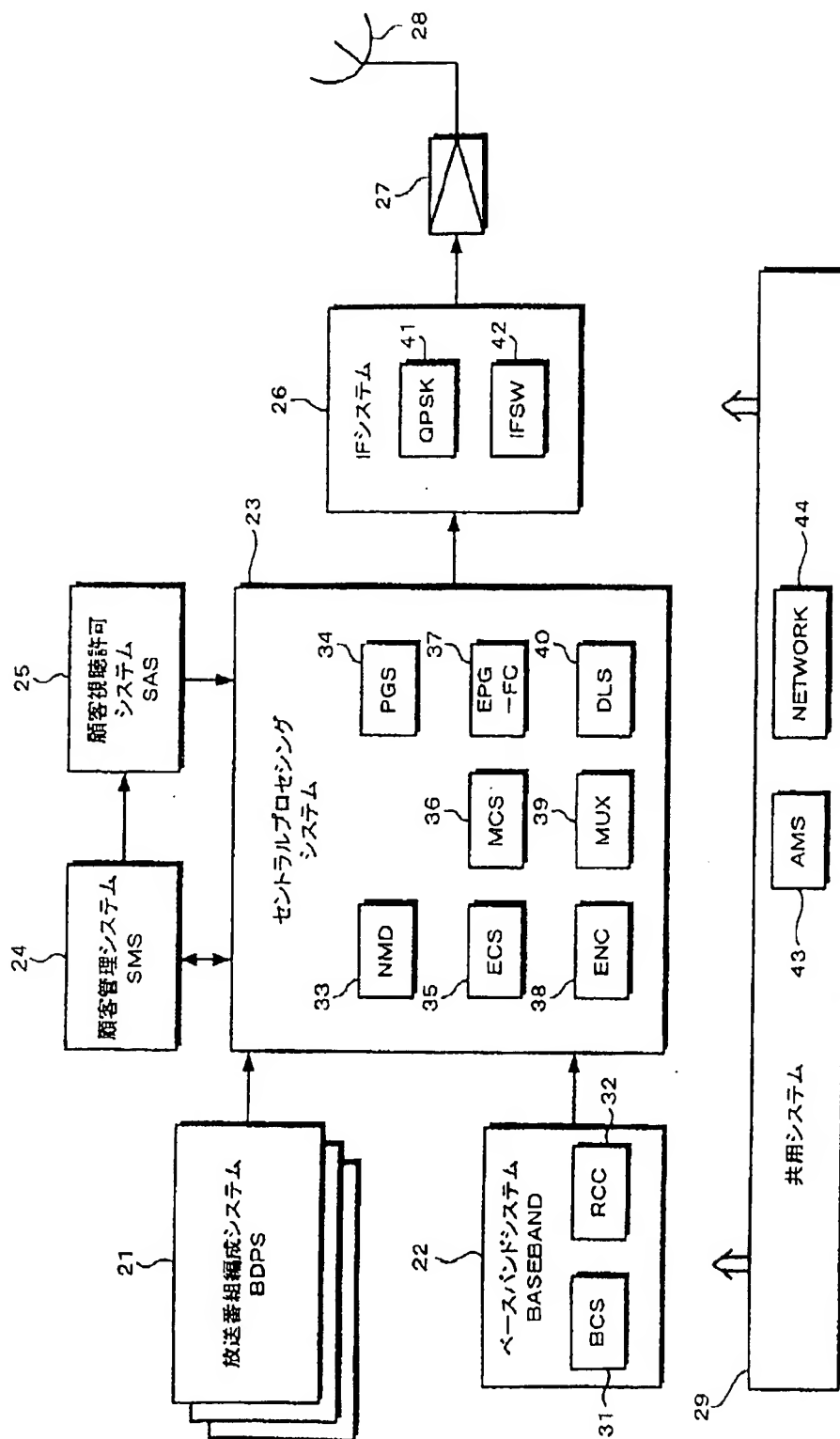
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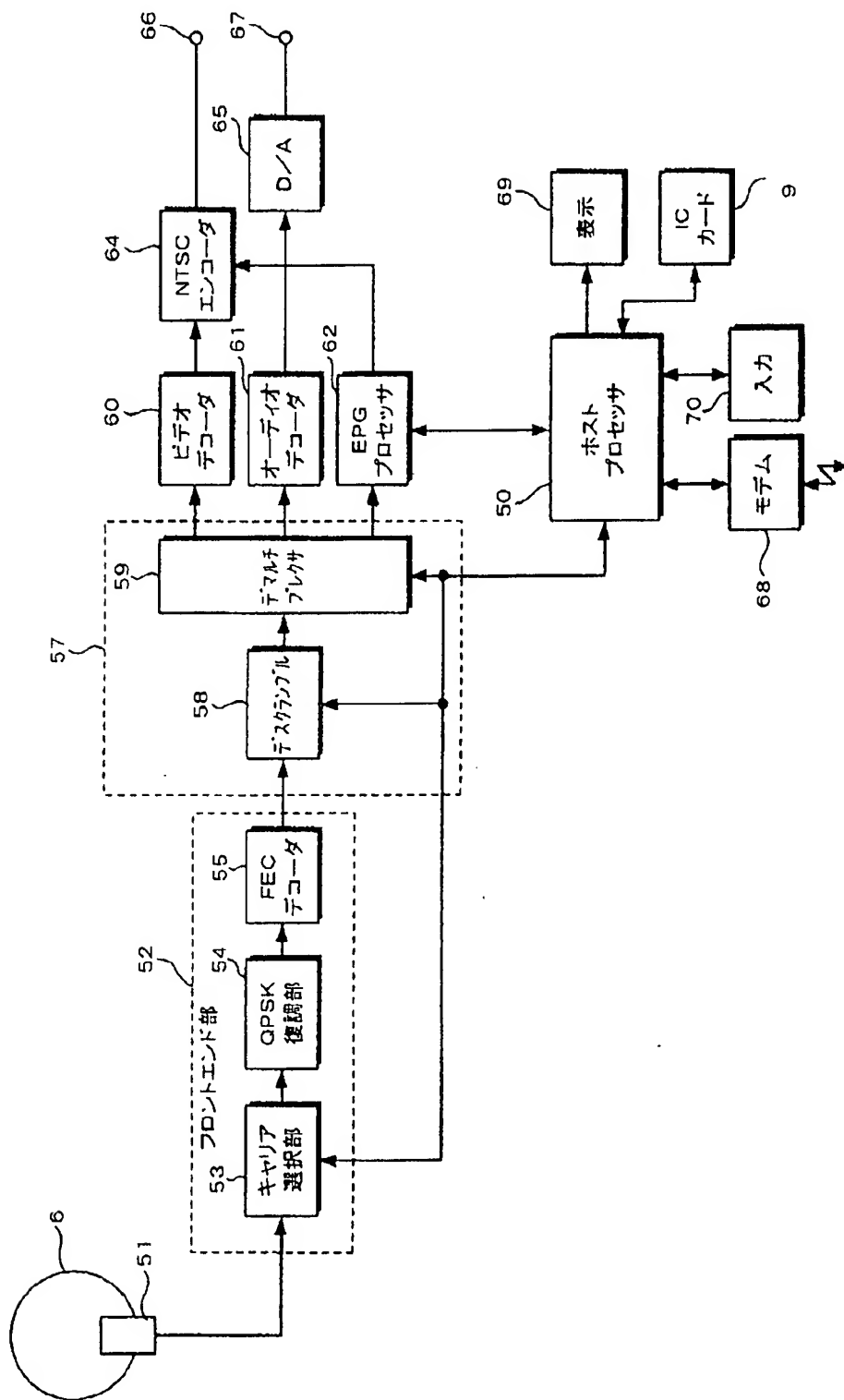
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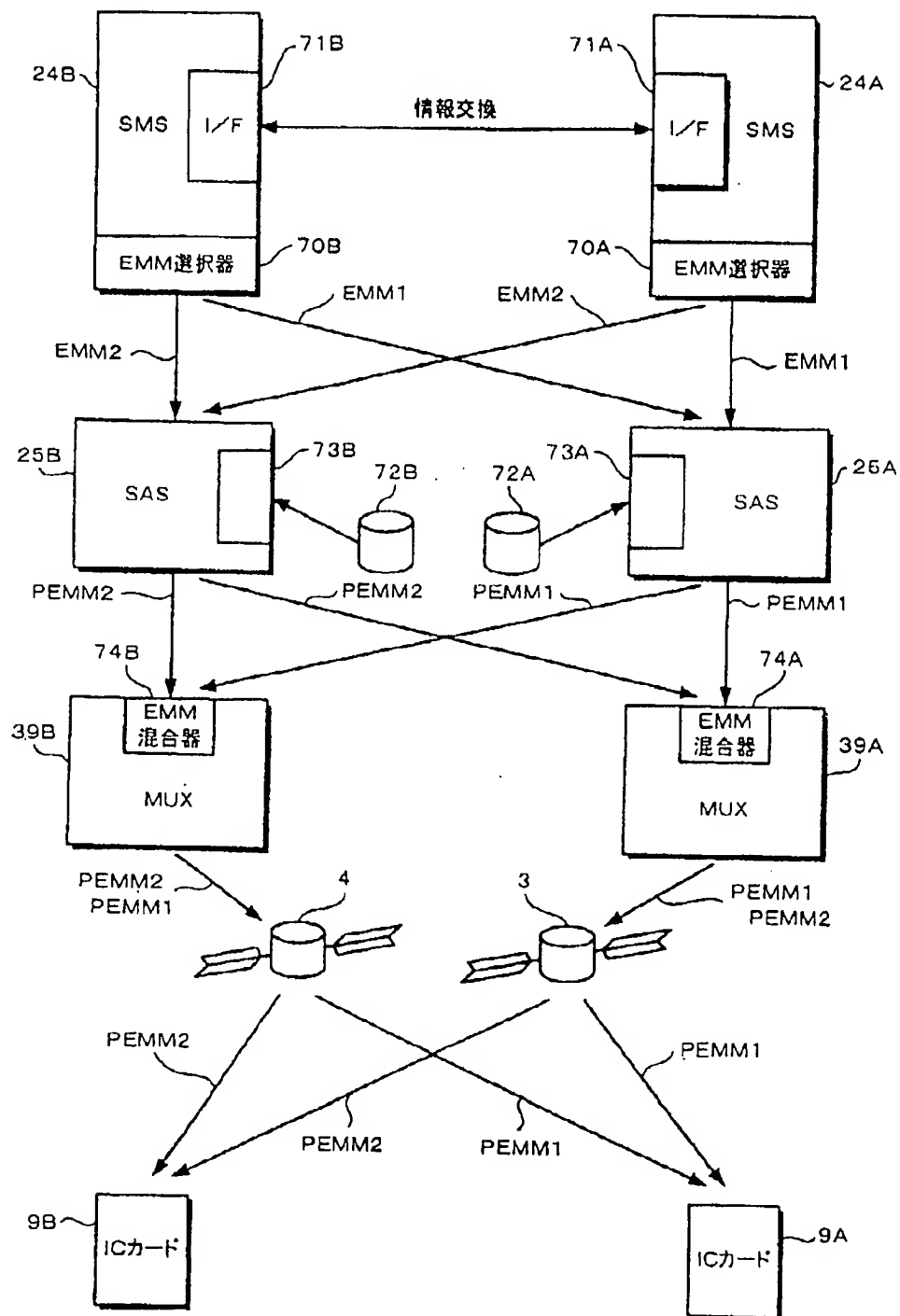
[Drawing 7]



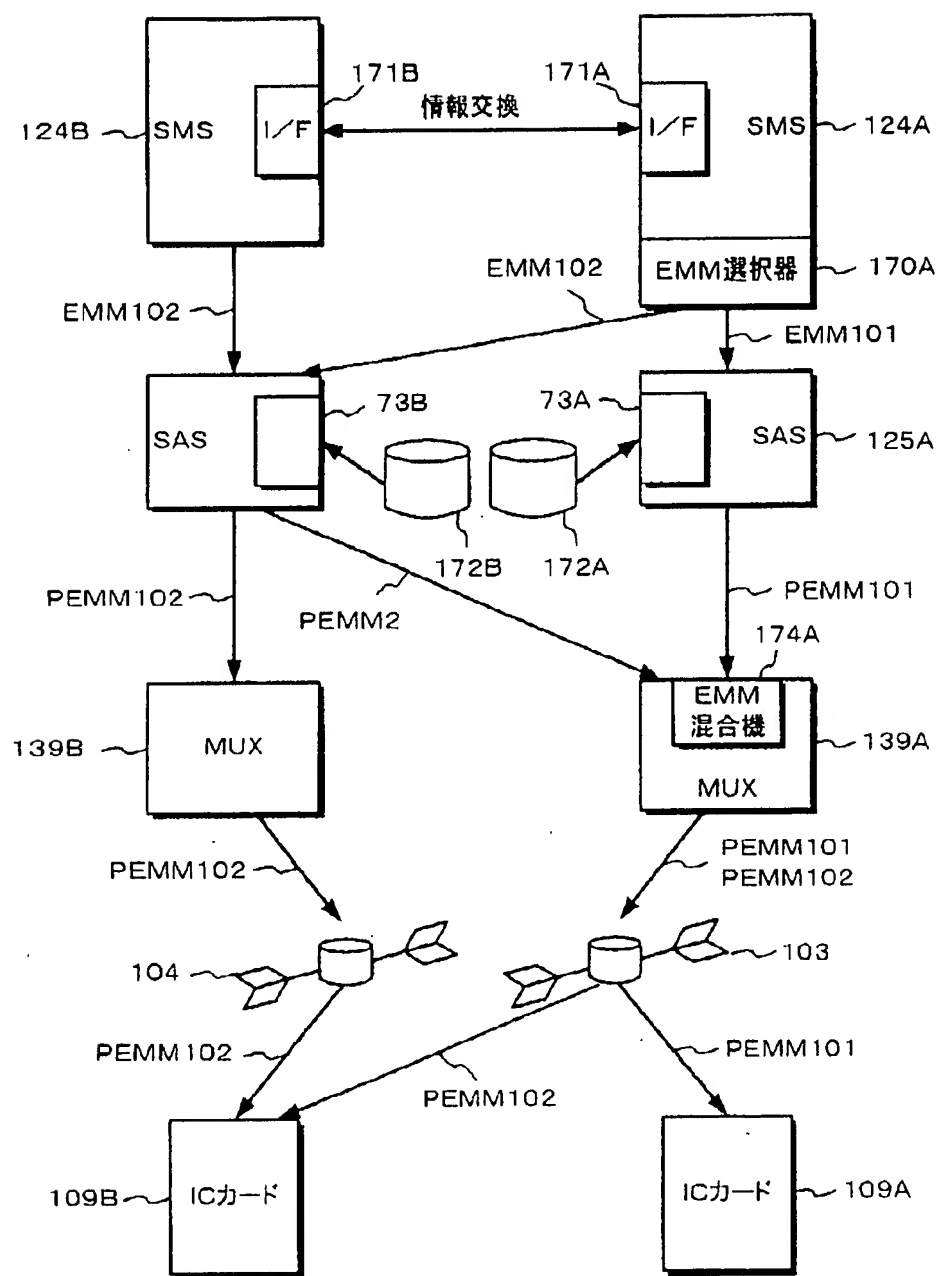
[Drawing 8]



[Drawing 9]

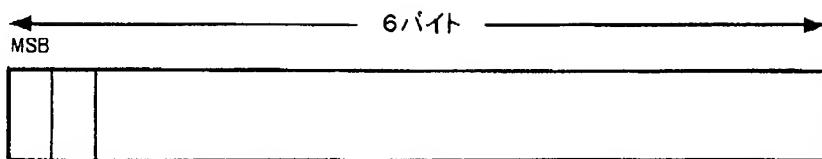


[Drawing 10]



[Drawing 11]

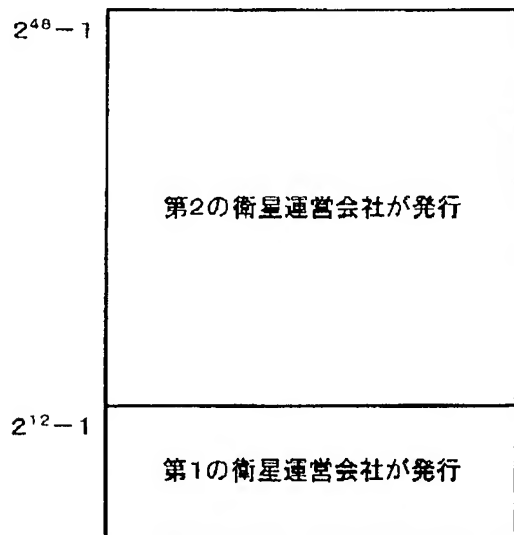
A



B

上位2ビット	
00	第1の衛星運営会社が発行するカード
01	第2の衛星運営会社が発行するコモンカード

C



[Translation done.]